

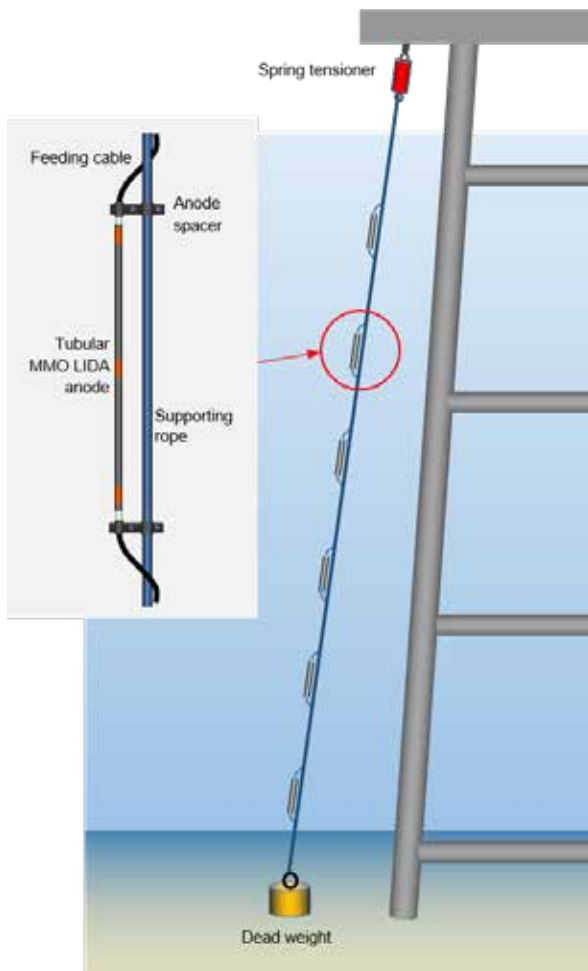
EXTEND

THE LIFE OF YOUR PLATFORM

Introducing **TSA™**, a new system for cathodic protection.



The **Tensioned String Anode (TSA™)** technology developed by De Nora, provides an efficient and cost-effective cathodic protection retrofit for in-service offshore platforms. Steel platforms that experience anode deterioration can benefit tremendously from this type of intervention, and the **life of the platform can be extended.**



Spring tensioner

The impressed current **TSAT™** system offers the following advantages with respect to galvanic anodes and other retrofit solutions:

SIMPLE and **COST-EFFECTIVE** installation

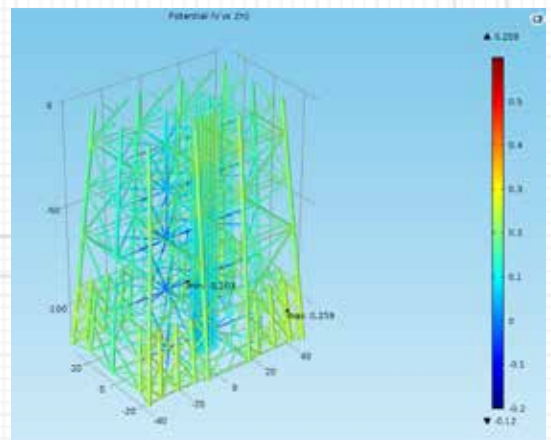
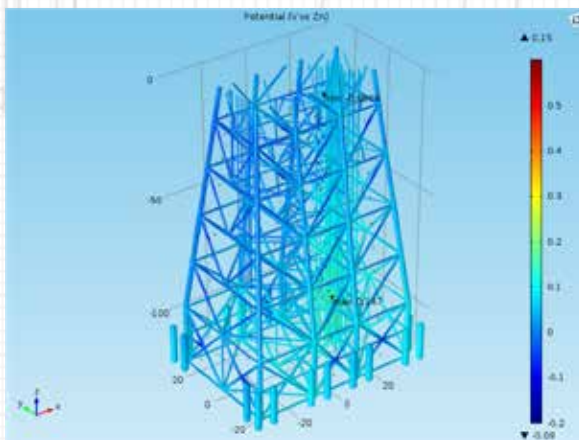
EXCELLENT current and potential distribution

EASY monitoring of system performance

Robustness and long-term **RELIABILITY**

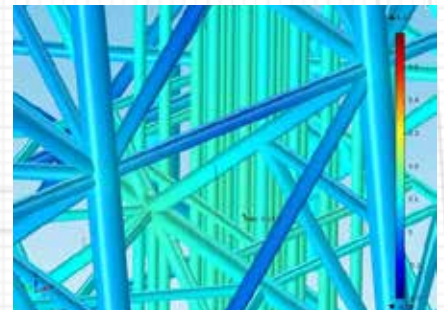
Our **TSAT™** technology can be applied to any cathodic protection retrofit needs in shallow water as well as deep water.

CONFIGURATION EXAMPLE



Finite Element Modeling was extensively used in the design of the Petrobras and Vega Projects.

Modeling of the current and potential distribution was performed with the aim to verify that correct protection conditions were achieved all over the structure, with an effort of dividing local overprotection conditions.



Dead Weight

Fig. 3

Morrison, De Nora and Cescor have teamed up in the field of **CATHODIC PROTECTION RETROFIT** of offshore platforms, providing a complete package that includes:

ADVANCED design and modeling

Supply and manufacturing of **TOP QUALITY** anodes and CP components

Installation works and maintenance **SERVICES**

Fig. 6



MorrisonEnergy.com

Procurement | Logistics | Construction
Installation | Maintenance



Cescor.co.uk

Site Survey | Design
Supervision | Commissioning



DeNora.com

Manufacturing | Supply

MORRISON

Greg Detiveaux
VP Business Development
713.344.9233

CESCOR S.R.L.

Bruno Bazzoni
Managing Director
Phone: +39 02 26412538

DE NORA

David Francis
Regional Director
440.710.5300



US | Mexico | West Indies

info@MorrisonEnergy.com MorrisonEnergy.com